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ABSTRACT

An historical review of definitions of visual literacy is summarized by the statement, "the transmission of meaning visually is what visual literacy is all about." To be visually literate is to be able to gain meaning from what we see and to be able to communicate meaning to others through the images we create. Three assumptions, taken from the 22nd Annual Lake Okoboji Educational Media Conference, are adopted: (1) visual literacy can be learned, (2) visual literacy can be taught, and (3) visual literacy can be evaluated. These concepts are used to discuss the application of visual media in conjunction with written/spoken language. Visual-verbal discontinuity is described as a serious communication problem which can best be avoided by developing a better understanding of the parallels and differences between spoken/written language and visual language. Vocabulary, grammar, and figures of speech (with special attention to examples of trope and metaphor) are addressed, as well as comics and advertising. Five tentative rules of thumb for more effective visualization conclude the presentation. Twenty-two references are listed. (Author/LLS)

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REIGNING CATACHRESES AND DOGMAS RELATED TO VISUAL LITERACY

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Introduction

Visual literacy is a relatively new term in the field of educational research, but it has been around long enough to become scratched and clawed, used and abused. Indeed, Turbayne (1970) indicates that problems dealing with the language of vision date back to Plato and Aristotle. Since Debes (1969) first described the "great dim shape" or "great amoeba-like entity with pseudopods reaching out in many directions" (p. 25), modern writers have sought to tailor a verbal definition of visual literacy to fit their own specific needs. Dondis (1973) cautions that "the major pitfall in developing an approach to visual literacy is trying to overdefine it" (p. 9). Educators and other professionals have a tendency to assign new names to old ideas or old names to new ideas and occasionally even stretch words or phrases for rhetorical effect. Nevertheless, it may be helpful to look at some of the ways in which the term "visual literacy" has been used in recent publications. It is first of all a process; a movement; a set of competencies or abilities or skills; a method, means, or vehicle; a potential; a responsibility; and an appreciation (Okoboji, 1976). Levie (1978) mentions that among the areas that have contributed to the study of visual literacy are aesthetics, anatomy of the eye, body language, cognitive psychology, communication theory, cultural anthropology, instructional technology, mental imagery, neurophysiology, perceptual development, psycholinguistics, semantics, and visual perception. Visual literacy is also what Dondis calls "the crucial component of all channels of communication" (p. 18) or "one of the fundamental measures of education in the last third of our century" (p. 19). And, according to Fransecky (1969), visual

literacy is "one of the most exciting new educational strategies currently under review in professional journals, at conferences, and in the classrooms of academia. . ." (p. 29).

To be literate is, at the base level, to be able to read and write. That is, to be literate is to be able to use the written form of the language to give or receive meaning. Other interpretations are more demanding. In some contexts to be literate may imply to be educated, well-informed, or some other shade of meaning with high intellectual expectations. The concept is simplified if kept at the base level. It also provides a more manageable frame of reference as a root word for the derivative term visual literacy. Thus, to be visually literate is to be able to gain meaning from what we see and to be able to communicate meaning to others through the images we create. As supplements to this definition we are more than willing to accept secondary or even tertiary meanings. However, the basic definition is of primary concern. The transmission of meaning visually is what visual literacy is all about.

Assumptions

The summary report of the 22nd Annual Lake Okoboji Educational Media Conference (Okoboji, 1976) provided 79 assumptions about visual literacy, at least three of which appear to be sound enough to be widely accepted. These three assumptions are apt to guide the field indefinitely, barring the unlikely event of being refuted by research. Simply stated, they are:

1. Visual literacy can be learned;
2. Visual literacy can be taught;
3. Visual literacy can be evaluated.

In addition to these basics, the authors would like to clarify two other assumptions underlying this paper. First, we assume that the word "language" may be used loosely enough to allow us to avoid debate over the expanded term visual language. Second, we assume that the reader will accept the observations, comparisons, suggestions, and conclusions of this work in the same spirit as they are offered--as ideas tentatively worth consideration. Bruner (1973), in his eloquent presentation of On Knowing: Essays for the Left Hand, writes of metaphoric hunches that must be shifted from the left hand to the right by rendering them into notions that can be tested. We are not quite ready for that transfer.

Pragmatic Concerns

Without doubt visual literacy is an expansive and an expanding field. We should not, however, let complexity of content, breadth of theory, or diversity of research obscure our mainline pragmatic concerns. For practical purposes--speaking from the educator's perspective--we are primarily concerned with the use of visual media in conjunction with written/spoken language. Words are used alone and visuals, too. There is probably too much of the former and too little of the latter, but that is an issue unto itself. Importantly, of the three primary communication possibilities--verbal-only, visual-only, and verbal-visual--the latter is the best choice of good practice in most instructional settings. Even if it were not, it is the area of communication where the theory and research of the visual literacy field can be most readily brought to bear upon the instructional and communication problems of the real world.

When spoken words and images are being used together (as in a sound filmstrip), it is unreasonable to expect every picture to add to the meaning of the sound track or for the narration to enhance every image. It is not unreasonable, however, to expect that the image does not detract from the script and vice versa. What this means in application is that even the best audiovisual programs can be expected at times to contain benign images and at other times to have musical bridges or other relatively content-free segments of sound tract.

Visual-Verbal Discontinuity

Visual-verbal practice in the audiovisual field is not particularly encouraging. Put bluntly, we are not adept at using images and words together. The combinations that we contrive do not always result in successful--much less efficient--communication. It is the contention of these authors that the use of words and images together in incompatible, inharmonious, mismatched ways not only can result in reduced communication, but also can be avoided. In instructional media the incongruities between words and images are so common, create so much dissonance, and are so detrimental to the symbiotic nature of language and vision that a term needs to be standardized which labels this pervasive problem. For several years these writers have been successful in conveying the intended meaning by referring to visual-verbal discontinuity. (Visual-verbal antibiosis is probably more accurate but would be less well understood.) By whatever name, visual-verbal discontinuity is a serious communications problem which can best be avoided by developing a better understanding of the parallels and differences of spoken/written language and visual language.

Visual Language

Attempts to establish a visual language that completely mimics verbal language have not been productive. In the purest sense, the form, structure, rules, and uses of verbal language are not directly transferable to the visual realm. This point of view has been expressed earlier by Dondis (1973). Yet, some of the concepts of verbal languages have clear application to visual communication. We refer in particular to the concepts of vocabulary, grammar, and figures of speech.

Vocabulary

How do visual and verbal vocabulary compare? More to the point, is there really such a thing as visual vocabulary? If you will allow some tolerance in definition, we believe so, and an example will show what we mean. A simple word in the English language is stop. Four letters, one syllable, a single morpheme, four phonemes, and a hat full of meanings. The Oxford English Dictionary provides 13 columns of definitions, mostly reflecting some derivations from or related to the ideas of "to cease moving," "to halt," "to pause," and "to quit." In many uses the word literally denotes quitting, terminating, or halting, while figuratively implying (connoting) that stopping is temporal--an act which precedes resumption. To code these literal and implicit meanings the written language utilizes four letters of the alphabet, three consonants, and a vowel. In spoken form other coding conventions apply which deal with the phonetic properties of the arrangement of the four letters. (S, T, O, and P can be arranged in 24 combinations, eight of which are easily pronounced, and six of which have meanings as words.) Thus, all three comparison conditions exist. Verbally, "stop" has denotative meanings, connotative meanings, and a letter code which conforms to phonetic conventions.

How about visually? Well, the literal meanings are unchanged, as are the connative ones. Of the several visual synonyms for stop, the stop sign is the most universal in our culture. The stop sign commands the driver to halt. The driver may resume moving when safe to do so. Observing traffic conditions, estimating vehicle performance, and other judgement intangibles are implied. The coding of the stop sign is well known to all of us: the shape is constant and the color is prescribed. Always octagon. Always red. The optional elements are the printed word STOP and the white line which highlights the shape. Red octagons need not be highway stop signs. Indeed, they are used in many places other than at roadway intersections. Even so, the meaning conveyed is always "stop." Thus, the stop sign is an item in the average person's visual vocabulary.

Grammar

Viewed holistically, grammar is a system of rules, unique to a given language, which governs the combination of words into sentences. Grammar may also be seen as a broad area of linguistic interest that subsumes morphology, syntax, phonology, semantics, and etymology. As we attempt to apply the concept of grammar to visual images, the holistic view is particularly useful. To find a visual grammar we need only ask, what are the "rules" for combining meanings in visual representation?

An attempt to answer that question leads us to a fork in the road. In one direction we see many near-rules. These are conventions of use that may have more origins in fine art, graphics, and advertising than in educational illustration. Down the other branch of the road we see

the suggested rules, the possible grammar which should evolve from the implications of the research into visual literacy. Because the research has produced few absolute results, if any, there is no comprehensive set of prescriptive rules yet. From Williams (1970) we have propositions. From Dwyer (1978) we have summaries. From Fleming and Levie (1978) we have principles. And so it goes. It may not be possible to travel both roads at the same time, but there seems to be some merit in making the attempt.

What that suggests is that on the one hand we attempt to incorporate as new conventions the best state-of-the-art implications from the research. On the other hand we should begin to pair the completed research with the old time conventions in an effort to validate those techniques. Where no pairings are possible, additional research can be inspired. That would mean, for example, that a rule of thumb would emerge for using the "glance curve" (Gaffron, 1950; Williams, 1970). It would also mean that we would link perception theory and research with existing and very useful guidelines for visual design such as those related to color offered as charting techniques by Spear (1969). In the latter example we might obtain prescriptive rules which could be applied with confidence when selecting color combinations or when deciding about dark, light, bright, warm, or cool colors.

A visual grammar cannot emerge if we are content to say that we need visual punctuation (or some other generalization). Instead we must identify those visual codes that serve punctuation functions. We must ask which types of visual cues, under what circumstances, correspond to

printed commas, parentheses, periods or exclamation marks (not a difficult task, because we already have most of the answers). Then, critically, we must construct the bridge between our cues and codes that converts them to rules--clear guidelines for practical use. What we are suggesting here is that the syntax of visual literacy will come in the development of rules for the application of visual codes, e.g., the explication of such material as Levie's (1978) continuum of iconic codes or the 14 types of cues already elaborated by Dwyer (1978).

Generating Rules of Grammar

Taking an example previously introduced, we can start at the level of generalization. In their principle number 1.38, Fleming and Levie (1978) assure us that "Capacity appears to be larger where two modalities are utilized (audition and vision) rather than one" (p. 61). They provide additional insight with the following analytical comment which represents their conclusion from the research to date:

> Multi-channel communications which contain unrelated cues in two channels will cause interference between channels and result in less information gain than if one channel were presented alone. (p. 62)

Thus, one area in which there is a general need for a rule or group of rules of visualization is visual-verbal discontinuity. Can we bridge to the specific? Let's try. Here are some suggested rules that might be appropriate to deal with the problem of visual-verbal discontinuity:

Rule 1. In audiovisual presentations, avoid inverted grammatical structures that place the subject at the end of the sentence or paragraph. (The subject must be identified at the outset so that it may be visually illustrated and explicated at the same time that it is being discussed.)

Rule 2: Do not show a visual of one thing while talking about another unless the relationship between the two things has been previously established.

Rule 3: When visuals are used that show two or more items, concepts, or ideas, the accompanying audition should identify first the item that is the first to be encountered in the glance curve unless the discussed item is unmistakably pre-eminent in the visual.

Rule 4: Whenever the subject is changed in an audiovisual presentation, the visual should be changed also. If additional viewing time is needed for the learner to integrate the information from a visual, the audio element should pause during that additional viewing time rather than introduce a new topic unrelated to the visual.

Rule 5: Determine whether the main message is to be communicated by the visual or the verbal component. If the images are primary, be certain that the script describes, explains, or gives added meaning to them. If the script is the main message line, provide images which illustrate the points or serve as unambiguous examples.

Figures of Speech, Trope and Metaphor

What the metaphor is to the English language, trope is to the visual arts. It is important to recognize this because trope has long been a term with meaning beyond that of verbal figure of speech. The visual equivalents of figures of speech are the aesthetic heart of the so-called grammar of film. However, because only a relatively few individuals learn to "read" a film in the sense suggested by Monaco (1977), filmic

trope has not formed a sound foundation for an all-media visual grammar. Even the word "trope" seems affected, visual metaphor conveying the concept more comfortably. And, it is the concept of figurative representation that is germane in any comparison of visual and verbal languaging characteristics.

Early in life we learn to interpret photographs of recognizable objects. Thus, images that look like something need no definition. However, only photographs and the most realistic of paintings look "exactly like" the objects they portray. As soon as we depart from an exact duplication of reality in an image we are venturing into the realm of visual metaphor--the substitution of one thing for another.

The reality continuum has significant impact upon perception and learning. Considerable research has been done in this area of visual literacy in recent years. Still, there are no clear standards for establishing benchmarks upon the continuum. As a result, the terminology is imprecise, but usable. For example, Arnheim (1969) uses only three distinctions: picture, symbol, and sign. Dwyer's (1972) heart illustrations, which have become almost a standard instrument for many researchers (see e.g. Acevedo and Lamberski, 1980; Canelos, 1980), provide nine points: oral/verbal; simple line drawing (b&w); detailed, shaded drawing (b&w); model (b&w); realistic photographic (b&w); simple line drawing (color); detailed, shaded drawing (color); model (color); and realistic photographic (color). Berryman (1979), in providing advice for commercial designers, identifies six levels between low and high abstraction, including photograph, illustration, glyph, logo, lettermark, and abstract.

Figurative speech also includes all of the fantasy conversions. Eyes are never really like two flashing pools of deep blue water and hearts are never really as large as houses. When words alone are used to prompt flights of imaginal invention, the reader can create a personal image that is either vaguely or perfectly in focus. The vision can even be completely lacking in context. In contrast, hearts as large as houses can be painted as public images, but they are either in or out of focus as decided by the artist, and there is much less freedom of context. We must conclude, therefore, that metaphorical applications, though possible in visualization, are generally more suited to rhetorical and embellished speech and writing. Oddly, the overused metaphor (and other clichés) may be an exception that is far more suited to the visual realm than to the world of words.

Clichés

The verbal cliché is particularly vulnerable to illustration which results in visual-verbal discontinuity. Consider some of the possibilities for error if, for example, the script says, "Cold cash was the basis of the transaction." Cold cash is the cliché. Real money (not check or credit) is the subject. First, the cliché can be shown in words alone. The printed words "cold cash" are benign, neither enhancing nor detracting, unless fancy letters are used, which would be detracting. An image can be used which shows money on ice or some other visual display of the two literal concepts contained in the cliché. This doubles the chance of concept conflict (e.g., use of warm colors when illustrating cold as a

concept, or portraying money in a frivolous, humorous way to illustrate a concept meant to be considered seriously). It assures communication conflict--the message is "money"; illustrating "cold" is confusing.

The verbal cliché (especially the overworked metaphor) is often the root of the sight gag. As such, the literal translation of the cliché is intended to become humorous and can serve as a mnemonic or perhaps as an element in motivation. Otherwise the sight gag takes its place alongside the pun as an aberration of communication better avoided than fostered.

Those are the gloomier sides of the cliché in visual literacy. On the bright side, the concept of the cliché when transformed to the visual cliché is central to the creation of enough visual vocabulary to sustain any viable visual language system of the present or the future. Repeat, replay, and rerun! The rule is redundancy--quite the opposite of the teachings of literary dogma. That is why one of the more difficult tasks of the typical beginning producer of visualized instructional materials is learning to use the same image several times in the same program. A visual synonym may offer itself as a much more elegant solution, but with each replication of use, the inelegant, oft shown image grows stronger as an instrument of communication.

Comics and Advertising

The two areas with the most effective symbiotic use of words and visuals in our culture today are the funny pages and advertising. The comics provide us with a daily showcase of words and images used together in a supportive way. An abbreviated list of the visual conventions that

have been developed for comic strips would include differentiated cues for thinking and communicating according to the type of balloon used, extensive use of caricature techniques to suggest graphic equivalents of pantomine, conventions for showing motion and emotion, stereotyping, all manner of artist shortcuts and graphic shorthand, and accommodations to the limitations of a two dimensional soundless medium. Comics are a whiz bang world, filled with hyperbole and onomatopoeia. They also are examples of fantasy and fiction that bear their message through a language that is neither wholly visual nor verbal. In spite of recent work, such as that done by Sewell (1979) demonstrating the value of cartoons in instruction at the college level, there is for now at least an unfortunate but understandable resistance to accepting this form of visual-verbal expression in secondary and post-secondary education.

Advertising has much to offer the field of education. The television commercial can serve in several ways as a model of communication that could be applied to instruction (Braden, 1979). Trademarks and corporate logos have become part of our visual vocabulary. The pages of almost any slick magazine will reveal visual-verbal combinations that turn the verbal metaphor into a visualized attention getter. Usually the result could be classified as either a sight gag or visual-verbal double entendre. An airline advertisement shows the plastic bag used to package items carried via air express. The caption reads, "Same day package service is our bag." The manufacturer of a popular brand of photographic equipment advertised recently with a picture of a flash gun atop a stack of well known books. Resorting to metaphor, the caption writer came up with the cliché, "best

seller." Another ad displayed an altered picture with camera lenses deftly matted into a city skyline so they stood as skyscrapers among the tall buildings. The caption played upon photographic jargon. In these and other ads the visualized metaphor serves a limited purpose--to grab the reader's attention. The rest of the ad is likely to be written in fact-filled terms, without benefit of flourish or furbelow. The advertising writers seldom stray from their purpose. More important, they seldom confuse the purpose of the visual and verbal components of their advertisements.

All symbols have a metaphoric function, substituting for the realistic image they replace. It is worth observing that the pure visual metaphor is more difficult to establish than its verbal counterpart. However, all visual images are not pure metaphors. The pure visual metaphor, a visualization which substitutes the image of one object for another object, is actually rather rare. Advertisers use visual metaphor occasionally, artists use it frequently, but educators use it almost not at all.

Five Rules of Thumb

Work in a variety of areas has shown that we know a great deal about effective visualization; we now need to apply what we know. In this spirit, we leave the reader with five tentative rules of thumb:

1. Start with a script, then visualize, if your intent is to create instructional materials with symbiotic visual and verbal components.

2. The TOPIC comes first in all paragraphs and im most sentences of scripts that are correctly written to be visualized. Tell what you are

talking about before you tell what you have to say about it. This paragraph is written in script form.

3. Avoid verbal figures of speech in script writing. Verbal metaphor translates poorly to visual trope. Seek visual clichés; avoid verbal ones.

4. Visualize according to basic purpose. Avoid sight gags and abstract visuals for solely didactic purposes. Consider visual humor when the purpose is to gain or hold attention. Try to make visuals aesthetically pleasing to enhance motivation and to support other affective purposes.

5. As far as possible, apply the findings of research to the evaluation of visualized materials. Where research findings are unavailable, evaluate intuitively. Until we have other evidence to the contrary, the best way to judge a visual is to ask "Does it look right for the job being asked of it?"

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